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THE JOURNAL OF SCHOOL HEALTH

Devoted to the interests and advancement of school health service and instruction. Your participation by membership is solicited.

Vol. XXXI March, 1961 No 3

MENTAL HEALTH SERVICES IN LARGE CITY SCHOOLS

An Inquiry Concerning Mental Health Personnel Serving City Public School Systems

DONALD A. DUKELOW, M.D.

*Consultant in Health and Fitness**

Design of the Inquiry

This study was designed to give a partial answer to the question "How much time of professional mental health personnel time is being devoted to the public schools?" Since the entire United States could not be covered with the facilities available for this inquiry, the public school districts of the 170 largest cities were selected. It was presumed that these might be financially and administratively able to employ psychiatrists and other psychiatrically oriented personnel. No effort was made to reach county or suburban school systems or private or parochial schools. This study, therefore, covers large urban public schools serving approximately one-fifth of the school children of the United States.

A questionnaire was designed (Figure 1) to obtain information on (1) the hours per month of professional service provided by psychiatrists, clinical psychologists, psychiatric social workers, psychiatric trained counsellors and others with mental health training, employed full-time or part-time by the school system; (2) the hours per month of professional time devoted to schools by local mental health authorities, child guidance clinics, hospital out-patient departments, privately practicing psychiatrists and other psychiatric facilities; (3) the number or proportion of pupils that the respondent believed would benefit from mental health service, if such service was available; (4) the number or proportion of pupils now under the supervision of any school or community mental health facility; and (5) the informal opinion of the respondent concerning the role of the school in the mental health program and the nature of the mental health facilities that would be desirable for school age children. A portion of this report is verbatum excerpts from the responses to this question.

*From the Department of Health Education of the American Medical Association, Chicago, Illinois.

(FIGURE 1)

SURVEY OF SCHOOL MENTAL HEALTH PERSONNEL

City:.....State:.....

Name of School District.....

Superintendent of Schools:.....

Person Replying.....Position:.....

Mailing Address:.....

Enrollment: K-3:.....; 4- 6:.....

7-9:.....; 10-12:.....

1. How many of the following professional personnel are employed by your school system?

	Full-Time	Part-Time	Total Hours Per Month
Psychiatrists:	.....	.....	.....
Clinical Psychologists:	.....	.....	.....
Psychiatric Social Workers:	.....	.....	.....
Psychiatric Trained Counsellors:	.....	.....	.....
Others with Mental Health Training: (Specify)	.....	.....	.....

2. If none of the above personnel are employed by your school system, which of the following facilities are used and to what extent in terms of hours per month of professional time?

Mental Health Authority:.....; Child Guidance Clinic:.....;

Hospital Out-Patient Dept.:.....; Private Psychiatrists:.....;

Other Psychiatric Facility:.....

3. In the judgment of school administrators, health service personnel and attendance officers, how many of your pupils would benefit from mental health service if such service was available?
4. How many of your pupils are now under the supervision of any school or community mental health facilities?
5. Please state your opinion informally on the role of the school in the mental health program and the nature of the mental health facilities that would be desirable for school-age children.

An explanatory letter and copies of the questionnaire were sent to the superintendent of the public school system in each of the 170 largest cities in continental United States, 143 of whom (84%) caused someone to make a return which was useable in whole or in part.

When a questionnaire included an unanswered question it was assumed that no such service existed or that no opinion was available on the subject under discussion. In tabulating the hours of professional service per 1,000 students, only the school populations of those communities making a positive response were used. In other words, the comparative data presented regarding hours of service were based only upon those communities stating that they had some of that particular service. As a comparison, hours of professional service were also calculated on the basis of the total school population of the region under consideration.

Analysis of the estimates of the number of pupils who would benefit from mental health service and those who were actually under some form of mental health supervision was based on the population of those schools which made a response, and excluded those which ignored the question.

Classification of Communities

The material was geographically classified according to the state grouping used by the U. S. Office of Vital Statistics in their Morbidity and Mortality Weekly Report, except that the East South Central and the West South Central Regions were grouped together as a South Central Region, and the Mountain and Pacific Regions were united into a Mountain-Pacific Region. The number of questionnaires sent to and returned by each Region was as follows:

Region	Sent	Received	Per Cent Return
New England	22	19	86
Middle Atlantic	29	22	76
East North Central	31	27	87
West North Central	15	14	93
South Atlantic	24	19	79
South Central	26	21	81
Mountain Pacific	23	21	91
Total	170	143	84

A Comparison of Reported Services by Regions

Comparison of the regional responses to the individual questions asked indicates a variability in services or in the reporting of services. On simple inspection of the data, the New England and Middle Atlantic Areas appear to have more service than the South and West.

Psychiatrists' Services: The Middle Atlantic States report the highest incidence of psychiatrists' services, showing a rate for those reporting of 2.3 hours per month per 1,000 pupils. The lowest rate reported was for the South Central Region of 0.3 hours per month per 1,000 pupils. The data ranges according to the following table:

PSYCHIATRISTS' SERVICES

Region	Psychiatrists Full Time	Psychiatrists Part Time	Hours per Month	Hrs. per 1,000 Pupils per Month
New England	0	7	326	1.6
Middle Atlantic	13	29	3096	2.3
East North Central	1	9	536	0.5
West North Central	0	10	284	1.9
South Atlantic	1	4	343	0.9
South Central	0	3	102	0.3
Mountain Pacific	0	32	816	0.8
Total	15	94	5503	1.20

The data on all Regions calculated on the basis of positive responses from a school population of 4,582,278, showed that psychiatrists served schools a total of 5,503 hours per month or 1.2 hours per month per 1,000 pupils. Calculated on the total school population under study of 7,576,000 there were only 0.7 hours of psychiatric service per month per 1,000 pupils.

Psychologists' Services: Psychologists appear to be more prevalent in schools than psychiatrists. Educational psychologists may have been included in some instances with the clinical psychologists requested. Nevertheless, the East North Central States reported the highest volume of psychologists' services, the South Central States the lowest.

Over all, there were 13.0 hours per month per 1,000 pupils for schools reporting psychologists. These involved 5,693,270 pupils. Calculated on the total population of 7,576,000 there were only 9.8 hours of psychologist service per month per 1,000 pupils.

PSYCHOLOGISTS' SERVICES

Region	PSYCHOLOGISTS Full Time	Part Time	Hours per Month	Hrs. per 1,000 Pupils per Month
New England	29	2	4324	14.8
Middle Atlantic	175	4	23952	14.9
East North Central	165	6	25626	16.1
West North Central	17	0	2310	6.9
South Atlantic	39	4	6693	10.4
South Central	22	4	3230	5.6
Mountain Pacific	52	1	7788	6.0
Total	499	21	74023	13.0

Psychiatric Social Workers' Services: Social workers with psychiatric training often serve as pupil personnel officers, attendance officers or visiting teachers. The variations in terminology may have caused some confusion in reporting. The highest incidence of such service was in the East North Central States, the lowest in the South Central. In this instance the arbitrary creation of Regions united high and low responses to produce an artificial figure which distorts the facts, since the South Central States report of 10.7 hours per month per 1,000 pupils includes a rate of 37.9 hours for the East South Central and one of 6.0 hours for the West South Central States.

When based on the school population reporting some social worker services, a school population of 3,924,837 pupils had 17.0 hours per month per 1,000 pupils, but when based upon the total population under consideration of 7,576,000 pupils, this ratio falls to 8.8 hours per month per 1,000 pupils.

PSYCHIATRIC SOCIAL WORKERS' SERVICES

Region	PSYCHIATRIC SOCIAL WORKERS Full Time	Part Time	Hours per Month	Hrs. per 1,000 Pupils per Month
New England	16	0	2495	18.8
Middle Atlantic	161	2	22265	18.6
East North Central	74	1	2100	23.8
West North Central	29	1	4034	15.8
South Atlantic	18	0	3360	13.1
South Central	28	6	4324	10.7
Mountain Pacific	121	2	18338	15.6
Total	447	12	66916	17.0

Counsellors: Counsellors have a variable professional preparation. Therefore, counsellors with a psychiatric orientation were specified with the hope of learning of those who counsel with children and youth on their

personal and emotional problems. In spite of this limiting request, interpretation seems to have included a wide variation in the kinds of persons reported. The Middle Atlantic States reporting counsellors showed 79.0 hours and the South Central States 68.7 hours per month per 1,000 pupils, in contrast to only 5.7 hours per month per 1,000 pupils for schools reporting in the South Atlantic States.

In total, for the communities reporting psychiatrically oriented counsellors, a school population of 1,144,851 pupils had 39,359 hours or 34.4 hours per month per 1,000 pupils. However, this does not include New York, Philadelphia and several other larger cities which reported no counsellors, so that with the total population of 7,576,000 pupils as a base, we find only 5.2 hours per month per thousand pupils of counsellor service.

PSYCHIATRICALLY ORIENTED COUNSELLORS' SERVICES

Region	Counsellors Full Time	Counsellors Part Time	Hours per Month	Hrs. per 1,000 Pupils per Month
New England	34	26	6730	32.6
Middle Atlantic	43	0	6880	79.0
East North Central	24	3	4200	14.8
West North Central	13	0	1205	25.7
South Atlantic	1	0	240	5.7
South Central	54	25	12640	68.7
Mountain Pacific	32	0	7464	25.3
Total	201	54	39359	34.4

Others: The category of "Others" included everyone whom the reporter wished to include, and possibly included public health nurses, psychometrists, educational psychologists, classroom teachers, supervisors, school administrators, and many other people with some responsibility for school mental health activities. Though this category is a "catch-all" it expresses the interest of certain personnel which is quite uniform throughout the reporting schools. The highest level of this service reported was in the West North Central States which show 136.8 hours per month per 1,000 pupils. The lowest reported regional figure was 42.3 hours per month per 1,000 pupils in the schools in the South Central Region.

Communities responding positively to this question, embracing 5,236,623 pupils had 59.8 hours of service by "others" per month per 1,000 pupils, while a ratio based upon the total 7,576,000 pupils in the study shows 41.3 hours per month per 1,000 pupils.

SERVICES OF "OTHER" PSYCHIATRICALLY ORIENTED PERSONNEL

Region	"Other" Personnel Full Time	"Other" Personnel Part Time	Hours per Month	Hrs. per 1,000 Pupils per Month
New England	73	29	11387	45.9
Middle Atlantic	789	16	84144	61.2
East North Central	195	0	34319	43.6
West North Central	149	2	26553	136.8
South Atlantic	217	45	39737	62.7
South Central	201	26	34380	42.3
Mountain Pacific	450	254	92404	77.9
Total	2074	372	312924	59.8

School Mental Health Services by Community Facilities

The analysis of the extent to which community facilities were used by the schools is difficult of interpretation. Few school people had knowledge of the hours per month of professional service provided by community facilities for children of school age, or which children, if any, attended these facilities. On the other hand, a few had exact information because of a close liaison with the mental health facilities of the community. Among the 143 respondents, 32 made some reference to the use of mental health authorities, 72 to child guidance clinics, 38 to hospital out-patient clinics, 50 to private physicians, and 29 to a variety of other kinds of facilities. The response regarding hours of service from these facilities cannot be interpreted.

To augment the information requested in the questionnaire on the use of community mental health facilities by school age children, a letter was addressed to the Mental Health Authority or State Health Department of each state containing one or more responding school systems requesting information on the number of hours of service used by the school and school age children in mental health facilities outside of the school such as mental health clinics, child guidance clinics, hospital out-patient services and private psychiatrists. Answers were received from 21 states concerning 63 of the 143 cities originally responding. The replies from 11 states about 34 cities were not helpful, since the data was tabulated in terms of cases and could not be interpolated into hours of professional service, or the desired information was reported as not available.

The ten states supplying data which could be used as stated, or as the basis for a reasonable estimate, included three from the South Atlantic Region, two from the East North Central Region, two each from the South Central and the Middle Atlantic Regions and one from the New England Region. A comparison of the 29 cities in these states with the 143 cities in the total study, in terms of hours of professional service per 1,000 pupils exposed to that service per month, follows:

COMPARISON OF THE HOURS OF MENTAL HEALTH SERVICE PER 1,000 PUPILS PER MONTH IN TWO GROUPS OF SCHOOLS

	29 Cities	143 Cities
Psychiatrists	1.8 hrs.	1.2 hrs.
Psychologists	10.1 "	13.0 "
Social Workers	14.8 "	17.0 "
Counsellors	47.5 "	34.4 "
Others	63.6 "	59.7 "
Total	137.8 hrs.	125.3 hrs.

This suggests that the group on which supplementary information was obtained was reasonably comparable to the total group.

The supplementary reports received from state offices for 28 of the cities show an additional 40,681 hours per month of professional and clinic mental health service to a pupil population of approximately 1⅓ million. This is 30.2 hours of service per 1,000 pupils per month. The other city, New York, reported staff hours for service to a population of

1.6 million youth 5–19 years old in municipal and voluntary psychiatric clinics at an average of 35.7 hours per 1,000 youth per month.

This estimate is probably low because the supplementary reports contained only clinic and hospital out-patient services in public or semi-public facilities and in no case included private psychiatric care or possible psychiatric counselling with the school faculty and administration.

If these can be accepted as valid data we may estimate that the school mental health program involves from 125 to 140 hours of professional mental health service per 1,000 pupils per month, with an additional 30 to 35 hours from community mental health facilities whenever such services exist, and an unknown amount of service from private psychiatrists. However, the variability among communities is great, and the services of psychiatrists and psychologists are small in comparison to a larger service by unidentified members of a group called "Others."

Proportion of Pupils Who Could Benefit from Mental Health Services

Individual schools reported that from 0.2% to 25.0% of their pupils would benefit from mental health services. In spite of this wide range, it is astonishing how uniform the responses were when averaged on a regional basis. The Middle Atlantic States felt that 12.2% of their pupil population would benefit from some kind of mental health service, but the next highest estimate was the 6.6% reported by the East North Central Region. The lowest estimate was 4.1% from the New England Region. An overall estimate of 7.5% suggests that those responding are of the opinion that about one child in fifteen could be bettered by some form of mental health help.

	Pupils who could benefit from Services		Pupils who are receiving Services	
Region	Percent	Number	Percent	Number
New England	4.1	11847	1.0	2338
Middle Atlantic	12.2	173478	1.8	25671
East North Central	6.6	58982	0.9	12982
West North Central	5.3	19302	1.3	4056
South Atlantic	6.5	42697	3.4	21043
South Central	5.3	41998	0.8	5176
Mountain Pacific	6.2	78208	1.9	23358
Total	7.5	426512	1.18	94624
Pupil Population Base	—	5684397	—	5923341

Pupils Receiving Mental Health Services

A wide variation also occurred in the estimates of individual schools concerning the pupils under mental health supervision. Few seemed to know the exact number and individual reports ranged from 0.1% to 19.0%. Nevertheless, on a regional basis there was a reasonable similarity. The South Atlantic Region estimated that 3.4% of their pupils were receiving some kind of mental health service at the time of the report. The next nearest was 1.9%, reported by the Mountain Pacific States and all of the remaining Regions range from that figure to the 0.8% reported by the South Central Region. On an overall basis an average of 1.8% of the pupils in reporting schools were under mental health supervision at the time of the report.

Summary of Data

Schools totaling 4.5 million children had 5,503 hours of psychiatrist time each month, or 1.2 hours per 1,000 pupils per month.

Schools with 5.7 million children used 74,023 hours of psychologists' time, or 13.0 hours per 1,000 children per month.

The 66,916 hours of professional time of psychiatrically oriented social workers in schools with 3.9 million children amounted to 17.0 hours per 1,000 pupils per month.

Psychiatrically oriented counsellors in schools with 1.1 million children totalled 39,359 hours or 34.4 hours per 1,000 pupils per month.

The time of "Others" reported by schools with 5.2 million pupils totalled 31,942 hours or 59.7 hours per thousand pupils per month.

Schools having any one or more of these professional services enjoyed a total of 125 hours per 1,000 pupils per month of some kind of service, of which nearly half was by personnel classed as "others," and approximately 1 per cent was by psychiatrists.

In addition, state agency reports indicated an additional 30 to 35 hours per month of community mental health service used by schools and school age children. This then was the mental health service reported by the public school systems in 143 of the 170 largest cities.

Those who expressed an opinion stated that 7.5% of their pupils would benefit from mental health services of some type, and that 1.8% were under mental health supervision of some kind.

* * * * *

INSTITUTIONS OFFERING TEACHING MAJOR CURRICULA IN HEALTH EDUCATION AT UNDERGRADUATE AND GRADUATE LEVELS

WESLEY P. CUSHMAN, Ed.D.

Chairman of the Committee

Since 1947, the Study Committee on Professional Preparation in Health Education of the American School Health Association has been interested in keeping an accurate list of those colleges and universities offering a teaching major in health education at the undergraduate and graduate levels.

To bring this list up-to-date, the Committee began in 1960 with those colleges reporting in 1953 to the United States Office of Education as having such curriculums for the Second Conference on Professional Preparation of Students Majoring in Health Education and those colleges reporting enrollments to the Committee for its 1952–1955 study. A letter was sent to all State Departments of Public Instruction listing these colleges in their state and asking if this list was correct and if the Department had record of any other colleges within their state known to offer a major in health education. All states replied.

The following table lists the findings. Any institutions not listed or improperly reported should inform the Committee of the omission or error.

Institutions By States Offering Teaching Major Curricula in Health Education At Undergraduate and Graduate Levels

Institutions Reporting	Undergraduate Major	Dual Major with Physical Education only	Master's Degree	Doctor's Degree	Other Graduate Degree
Arizona					
Arizona State University	X				
University of Arizona	X		X		
California					
University of California, Los Angeles	X		X	X	
Stanford University	X		X	X	Educational Specialist, 2 yrs.
San Jose State College	X				Secondary Credential
Fresno State College	X				Special Interest Area, Division of Education
Long Beach State College	X				
Los Angeles State College			X		
College of Pacific	X		X		Secondary Credential
Sacramento State College	X		X		
San Diego State College	X		X		
San Francisco State College	X				
San Fernando State College	X				
Colorado					
Colorado State College			X	X	
Connecticut					
University of Connecticut	X				
Florida					
Florida State University	X		X		
University of Florida	X				
Illinois					
George Williams College		X	X		
Southern Illinois University	X		X	X	
University of Illinois	X		X	X	
Indiana					
Ball State Teachers College	X		X		
Indiana University	X		X	X	Director of Health and Safety
Maryland					
University of Maryland	X		X	X	
Massachusetts					
Boston University	X		X	X	
Springfield College	X				
Michigan					
Michigan State University	X		X	X	
Michigan, The University of			X	X	
Wayne State University		X			
Montana					
Montana State College	X				

Institutions Reporting	Undergraduate Major	Dual Major with Physical Education only	Master's Degree	Doctor's Degree	Other Graduate Degree
New York					
Brooklyn College	X		X		
State University of New York, Brockport		X	X		
Teachers College, Columbia University			X	X	
State University of New York, Cortland	X		X		
University of Buffalo		X	X	X	
Syracuse University	X		X	X	
New York University	X		X	X	Education Specialists
North Carolina					
North Carolina College	X				
University of North Carolina		X	X		
Ohio					
University of Cincinnati	X		X		
Kent State University	X		X		
Ohio State University	X		X	X	
Oregon					
Oregon State College	X		X	X	
University of Oregon	X		X	X	
Pennsylvania					
Temple University		X	X	X	
Tennessee					
University of Tennessee	X		X		
East Tennessee State College	X		X		
Texas					
North Texas State College	X		X		
University of Texas	X		X	X	
Texas Women's University	X				
Washington					
University of Washington	X				
West Virginia					
West Virginia State College	X				
West Virginia University		X	X	X	
Wisconsin					
University of Wisconsin			X	X	
Utah					
Brigham Young University	X		X		
University of Utah	X		X		

* * * * *

PRESIDENT'S PAGE

Has the School Health Association Measured Up to the Hopes of Its Founders?

CHARLES OUTLAND, M.D.
President, American School Health Association 1939–40

This question, as a title, must seem rather unusual; however, for many of us who remember the early days of the present organization, we are bound to agree that the vision of its founder, Dr. William R. Howe, and the early members who were in accord with him was justified and that their dreams and hopes have been realized.

Some of us, I am sure, will recall the meeting in 1934 at Saratoga Springs of The Association of School Physicians when we met with the New York health workers conference. We found ourselves at a very low ebb and in debt. Someone suggested that a fellowship be established at the rate of $5.00 per year. Although there were only a few members present, this was enacted, and everyone gladly "anted up"—thus clearing our debt and enabling us to go on for another year. From that point on enthusiasm produced growth.

The members felt that there was a great need for a medium in which there could be an exchange of views and problems could be discussed and possible solutions offered. So, The School Physician's Journal was "born." It was only a mimeographed form in its early days, but from this humble beginning our present excellent publication, The Journal of School Health, emerged. This has been a source of help and inspiration to us all.

From the narrow confines of the one discipline, medicine, the organization spread to other disciplines concerned with the welfare of the school age child—nursing, dentistry and education.

It is generally recognized that to give a school child a good start in life is very important and that all working together can and do give information and advice which will carry over into later life. As one looks back over a period of many years, one sees definite progress. The health education of the parents has accomplished a great deal but we still have a long way to go and must never relax our diligence. The future holds many advances for us who are dedicated to the health of the school age child and I see the American School Health Association growing far *beyond* the fondest hopes and dreams of its founders.

* * * * *

THE TUBERCULIN TEST BASIC MEANS OF REACHING AND TEACHING THE PUBLIC*

EDITH BACKS, R.N.

Secretary, Washington County Tuberculosis Association and Washington County Tuberculosis Sanatorium Board, Nashville, Illinois

Washington County in southern Illinois has a population of 14,000. Its 565 square miles are largely farm acreage. The largest of its several small towns has 2400 residents. Two industries employ approximately 300. There are six resident doctors, three of whom have office help. There is no official county public health agency, but a county tax provides care for tuberculous patients. The TB control program is in the hands of volunteers only.

When it was begun in 1942, the usual first steps were taken. Known cases were placed in the sanatorium; contacts were x-rayed; chest films were advocated for all. Tuberculin testing was begun in high schools, for seniors only.

The weakness of this approach was soon apparent. Advising yearly x-ray films for the population in general was just so much talk and—in a county with a fairly low incidence of tuberculosis—would have been not only a waste of effort but also of very limited funds.

Tuberculin testing needed expansion and, therefore, freshmen were included in high school surveys. Reactors were informed at once that a negative chest film assured only current freedom from active tuberculosis and that x-ray films must be annual henceforth. To stimulate participation in these surveys, county certificates of award were issued to high schools with 100% acceptance of the skin test and needed chest films in the classes covered.

But this program reached only youth, only a small segment of youth, and did not teach that segment enough. The urgent question was how, ultimately, to make the entire population intelligently tuberculosis conscious.

The answer lay in accepting the concept that unselective x-raying at the expense of tuberculosis control agencies is largely a waste of funds; that providing only one chest film for the reactor is—if it is negative—giving him a false sense of security and a completely wrong conception of the nature of tuberculosis; and that education about the disease and tuberculin testing must be dovetailed to expand together. The goal was to do this in schools and to induce people, all sorts of people, *all* people to go to their own doctors to be tuberculin tested at our expense. Furthermore, reactors must be provided with annual chest x-ray films till age 99½, and be trained to accept them.

To accomplish this an information program was devised for schools which begins in Grade 8 and includes each high school year, reaching every student. The tuberculosis association furnishes the material for study, the regular teachers use it in the classroom, volunteer ex-teachers

*Presented on the program arranged by the Committee on Tuberculosis of the American School Health Association during the annual meeting of the National Tuberculosis Association, May 15, 1960, Los Angeles, California.

grade the papers which are returned to the pupils. Classes from which themes are required receive cash awards for their class treasuries for 100% participation.

Emphasis and approach differ for each grade, but certain basic facts are stressed in each year's work. These are that those who harbor TB germs must be found, and how, and why; that reactors must be x-rayed annually, and why; that the discovered patient must be given prompt sanatorium care and enough of it, and why; and that the individual who is sputum positive should not be, and should not be tolerated out of the sanatorium, and why.

Eighth graders write themes about Alonzo whose young life is complicated by the tuberculosis of his mother. Grades 9, 10 and 11 complete quiz sheets after studying their assigned subjects which are, respectively: "The Tuberculin Test," "The Chest x-Ray," and "Basic Facts about Tuberculosis." Seniors write their "Letter to Corwin" in which they must advise a perturbed freshman who has just experienced the shock of a diagnosis of active tuberculosis as to what needs to be done for him and his contacts, and why.

Not all 8th graders become seniors, but most of them become freshmen. Thereby they get this information twice. Sophomores and juniors study it in their second and third years; all who graduate have had it presented to them five times. It is interesting to note that several of these, in college, have chosen tuberculosis as the subject of papers which have earned excellent grades.

Proof that the program pays off lies in the routine acceptance of the tuberculin test by all included in high school surveys; by the lack of hysteria when a reactor is found; and by his concern in having members of his family tuberculin tested.

This program reached youth, but only youth. It would shape the future, but there was the present to mold. To do that, the general public which is not a captive group, had to be informed and motivated into participation for personal reasons. A continuous guerrilla warfare against the bacillus of tuberculosis had to be pushed on any vulnerable flank to interest, involve, and include adults—to reach and teach them. For lack of staff, the attack had to be made largely by mail.

Accordingly a one-page letter was prepared which begins with the words: "This is Your Offer of the Tuberculin Test," and continues by question and answer to explain the nature, purpose, and value of the test; that it is the recipient's at the expense of the tuberculosis association to be administered by the doctor of his choice; and that, if tuberculin positive, he must have *annual* chest films, why this is so, and that these will be without cost to him. He also receives a card bearing his name and address for the doctor's record of the result, and a stamped envelope for the return of the card to the association. There is a second letter which varies according to the group that is being approached. It, too, is enclosed with the tuberculin test offer.

Such groups may be parents of new babies who are urged to protect their "bundle from heaven" by determining their own infection status; or diabetics to whom the added hazard of tuberculosis is explained; or parents of first graders who are offered tuberculin tests for these newly

enrolled pupils IF they will also be tuberculin tested themselves; or food handlers; or members of civic, social, or church groups to which a newly found patient belonged. The possibilities are limited only by thought, imagination and, alas, money!

Ordinarily contacts are given personal visits; however, when a candy factory employee was found actively tuberculous his 220 fellow-workers received their tuberculin test offers by mail.

This enumerates only a few of the approaches made in this manner. Not all the offers are accepted, of course. But even the indifferent recipient of one has learned something about tuberculosis which he may not have known before. If he accepts it and the test is negative, a personal experience related to tuberculosis has been filed in his memory, and he has been conditioned to accept the test again later.

If he is a reactor, his more intensive education begins at once. He receives a personal letter repeating that the reaction to tuberculin proves infection, possibly of long standing, but not active disease, and that the latter may never develop. He is warned that he is landlord to unwelcome tenants who will not ring bells to alert him when they begin damage which they may institute at any stage of life, especially during its periods of degeneration. He is told that the first x-ray film herewith offered, must be followed by annuals till age 99½. This for his own sake so if activity develops it may be found while minimal with recovery faster and more certain; for the sake of his contacts and the community so he may have care before becoming infectious; and for the taxpayer who provides sanatorium care and is entitled to the smallest bills consistent with a *medical* discharge.

An x-ray film appointment is made for him, he is advised when his doctor has the report, so he may learn its contents. A year later he is reminded that his chest film is due and so on, thereafter, annually. Lest he stray from the straight and narrow path on removal from the county, he is advised of TB control agencies in his new locality, and these are provided with the name and address of their tuberculin positive immigrant.

To supplement and continue his education, the reactor's name is placed on the mailing list of a locally prepared, monthly bulletin which reports county TB activities and disseminates information about the disease with constant emphasis on facts related to its control. Anonymous case histories, not necessarily the county's, are used at times to point up that tuberculosis is not inherited, that it may be quickly fatal to infants, that it may be reactivated, and so forth. New drugs and treatments are mentioned. Infection percentages of the county are reported for the year and for special groups when the number tested in them justifies it. Technical terms are barred from the bulletin lest it confuse rather than enlighten.

No claim is made that these adventures in reaching and teaching the public by the tuberculin test, offered and explained, are 100% effective. However, there is demonstrable improvement in attitude toward and acceptance of the approach. At the end of the 1949–1950 fiscal year during which the first intensive efforts were made to stimulate skin testing beyond schools, 90% were for high school students and only 10% for those whom our offer had directed to their own doctors' offices. At the close of the 1959–1960 fiscal year, 30% of the tests in the preceding twelve

months had been done in high schools and 70% were for persons routed to their doctors by our urging. All told, 1193 tuberculin tests were furnished by the association during the last fiscal year.

This multi-faceted endeavor to reach and teach as many as possible has its advantages. One is that constantly some one is being stimulated into thought about tuberculosis because today's mail brought him the "This is Your Offer" letter. Furthermore, the recipient who ignores the first offer is likely to get it again on some other basis. A woman who is a diabetic recently accepted the test gratefully, admitting that she had not done so two years ago when it had come her way because of PTA membership.

It is rewarding that failure of reactors to have their annual chest films is rare. Some need considerable prodding, but recalcitrants are few. A welcome fringe benefit is that frequently those who have been tested dispense their information effectively. A doctor reported an elderly man's positive test with the prediction that here was a reactor who would never submit to a chest film. The next day the gentleman came in, escorted by his young niece. "Dorothy tells me I have TB germs inside me," he said, "and that I should be x-rayed." "Till you are 99½ years old," added Dorothy. "O.K., O.K.," he agreed. "That isn't too far off at that." He had his first chest film and has not skipped an annual since.

Reaching and teaching by means of the tuberculin test pays off most handsomely when the reactor's annual reveals trouble. Past awareness of potential activity has prepared him to take the diagnosis in better stride than the individual without such preparation. A 24 year old said: "I hate this, but let's get started. How soon do I go to the sanatorium?"

Ever so often we re-circulate "THE WHY OF IT" which was prepared to be all-inclusive in advocating the tuberculin test. It may have a familiar ring because, thanks to Dr. Myers, it was published in "Everybody's Health" in January, 1957 and quoted by Dr. Paul Dodd in his article about the "Tuberculin Test" in "Journal Lancet" of April, 1958. It says:

> When TB strikes infants it is often quickly fatal. That is why parents and baby sitters should be tuberculin tested.
> TB picked up during childhood may go to work during adolescence. That is why high school students should be tuberculin tested.
> TB often disables for years. That is why those who have family responsibilities should be tuberculin tested.
> TB may remain inactive for a long time only to go on the warpath during old age. That is why the aging should be tuberculin tested.
> TB is prevalent in many foreign countries. That is why returning military personnel, travellers, and immigrants should be tuberculin tested.
> TB may be contagious. That is why all contacts of a known case should be tuberculin tested.
> When one member of a household is a reactor, all others in it should be tuberculin tested because they may have been infected by the same source.
> X-ray films reveal the damage done by tuberculosis, but not infection. That is why even those who have negative chest films should be tuberculin tested.
> TB can do extensive damage without causing any symptom. That is why those in apparently perfect health should be tuberculin tested.
> TB can strike anyone. That is why YOU should be tuberculin tested.

It should also be mentioned that a paper read before this Association in 1957 by Mr. E. J. Gross, Assistant Executive Director of the Illinois

Tuberculosis Association, at Kansas City reported some of Washington County's program. We regret it if this audience has sensed the repetition with boredom.

We cannot speak for other communities since, like Zoar, Lot's refuge after Sodom, we are "a very little one." However, a decade of using the skin test in this manner has strengthened our conviction that for us the tuberculin test is, indeed, the basic means of reaching and teaching the public.

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The Committee on Academic Education of The American Psychiatric Association announces the publication of a book entitled: Sources of Information on Behaviorial Problems of Adolescence. This in an index of scientific studies and their sources dealing with youth from ages 14 to 22. Single copies at $3.00 each may be obtained from The American Psychiatric Association at 1700—18th St. N.W., Washington 9, D.C.

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"The Role of the School Health Services in the Education of Children and Youth" is the title of the 35th Annual Report of The Health Service Department of The Denver Public Schools, Denver, Colorado. It is issued under the direction of the Superintendent Kenneth E. Oberholtzer and Leland M. Corliss, M.D. Director of the Health Service Department. It occurs to the editor of the Journal that this is an unusually effective report because of its prose treatment of data which ordinarily is statistically presented.

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The Annual Report for 1959–60 of the Division of Medical Services of the Philadelphia Public Schools was dedicated to their retiring Director of Medical Services, Dr. Ruth H. Weaver. As one of the past President's of the American Association, we know of Dr. Weaver's great usefulness in the school health field and we wish to join with others in a salute to Dr. Weaver.

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FDA APPOINTS CONSUMER EDUCATION SPECIALIST

Appointment of Miss Lala J. Curry as Consumer Education Specialist in the Food and Drug Administration is announced by Wallace F. Janssen, Director of the Division of Public Information.

Miss Curry will develop and direct a new consumer education program for the FDA. This consumer protection service is being initiated particularly in response to the many requests for FDA information from students and teachers in secondary schools throughout the United States.

Miss Curry received a B. S. Degree in Home Economics from the Ohio State University in 1948. She also attended Oklahoma State University. Her most recent assignment was in Monterrey, Mexico, where she organized and directed for several years the first professional home service department for food products in that country. She was associated with Anderson, Clayton & Co., S. A. de C. V.

Previously, Miss Curry was an editor of consumer material for General Foods Corporation in New York City and a member of the home economics staff of General Electric Company in Bridgeport, Conn.

SOME AREAS OF NEEDED RESEARCH RELATED TO HEALTH TEACHING IN SECONDARY SCHOOLS*

LESLIE W. IRWIN, Ph.D.
Boston University

The following list of areas and questions is not meant to be all-inclusive. It presents some of the problems and areas which seem to be in need of research in providing a more solid foundation for progress and development in health teaching at the secondary school level. The list is intended only to stimulate thought and ideas concerning research projects.

The order in which the areas are presented does not necessarily indicate their order of importance.

I. Facilities for Health Teaching

Some courses such as science, home economics and shop require special facilities for good teaching to be accomplished. As health teaching develops, it becomes more and more evident that special facilities are needed for good teaching. Some health specialists think that more thought and attention should be given to the development of standards for health teaching facilities. The feeling is that some phases of health should be taught through demonstration and perhaps some laboratory work.

When health classes are shifted from one room to another as they are in many high schools, it is practically impossible for health teachers to properly utilize demonstrations, laboratories and exhibits of many kinds. Too often when the question of special facilities is raised, the recommendations have been that health teachers use the science laboratories for demonstrations and laboratory work. Such plans have not proved satisfactory in most schools however, as science laboratories are seldom, if ever, available for health classes. Therefore, it is thought that standards for health rooms or laboratories should be developed for existing school buildings as well as for inclusion in plans for new buildings.

1. What phases of health teaching require laboratory type facilities?
2. What laboratory type demonstrations are most effective in the many areas of health teaching?
3. What is the nature and type of equipment needed?
4. What is the best type of arrangement and construction for a health room or rooms?
5. What equipment is needed for temporary exhibits?
6. What permanent equipment should be developed for the health room?

II. Curriculum Development and Construction

1. What are the funamdental health concepts that should be established at the secondary school level?
2. What terminal health information should be given in the last year of high school?

*Presented at The Annual Meeting of The Secondary School Health Education Section of The American Association for Health, Physical Education and Recreation, Miami Beach, April, 1960.

3. What is the scope of health teaching for each grade or age level?
4. How can satisfactory progression be established in health content?
5. To what extent is anatomy and physiology basic to health information?
6. What are the basic and fundamental areas that should be included at the high school level?
7. What division of basic and fundamental areas should be included at the different age and grade levels?
8. What is the place of first aid and safety in the health program?
9. What are the important health needs of students?
10. How frequently should curriculum revision be carried out?
11. What groups should participate in curriculum revision?
12. How can community groups and organizations effectively assist in curriculum development?
13. To what extent does the health teaching programs in the elementary school affect the high school?
14. What is the relationship between the health teaching programs at the junior and senior high school level?

III. Organization for Health Teaching

The organization for health teaching in the high school materially affects the quality of teaching and achievement. Surveys of schools show many and varied ways of organization for health not all of which seem effective. There is a need for carefully controlled research to determine the most effective ways of organization for teaching health.

1. What is the comparative effectiveness of teaching health through integration and regular health courses?
2. What is the comparative effectiveness of teaching health through correlation and regular health courses?
3. What is the comparative effectiveness of health courses organized on a single meeting period per week basis and two, three, four and five meeting periods per week?
4. To what extent does health taught as a part of science courses fulfill the need?
5. Should some health classes be organized on a double period basis to be most effective?
6. Are health classes organized as a part of physical education work effective and desirable?
7. Should health courses be organized on a semester or yearly basis? Which is most effective?

IV. Development of Health Behavior

The question is often raised concerning the extent in which health behavior should be developed through health teaching. There are many unsolved problems in this area.

1. How important is knowledge and awareness in establishing desirable health behavior?
2. What part does past experience play in health behavior?
3. What part do emotions play in health behavior?
4. What are the best ways of teaching and establishing desirable health behavior?

5. What is the relationship of attitudes to health behavior?
6. What factors promote or deter the learning and establishment of desirable health behavior?
7. What is the relationship of health behavior to cultural background?
8. What is the relationship of health behavior to social environment?
9. What is the relationship of health behavior to socio-economic conditions?
10. What is the relationship of health behavior to various ethnic groups?
11. How can proper health attitudes be developed through health teaching?
12. What is the relationship between health knowledge and health attitudes?
13. What is the relationship between health knowledge and health practices?
14. What are the significant differences in health attitudes of students at the various grade levels in high school?
15. Are there significant differences in health behavior of students who have had health courses and those who have not?

V. Communications In Health Teaching

Results of various surveys and studies seem to indicate that one of the main problems relating to health teaching is communication. Apparently many misconceptions and misunderstandings result from poor communications.

1. What emphasis should be placed on the teaching and use of scientific health terms?
2. To what extent are poor communications responsible for the many health misconceptions of high school students?
3. To what extent are communications a problem between teachers and administrators?
4. To what extent are poor communications a problem between students, parents and teachers?
5. How can lines of communication be established between school and community groups?
6. To what extent are poor communications a problem between health specialists?

VI. Methods of Teaching in Health

Methods of teaching health as in other areas is always a perennial and debatable question. Much research needs to be done to learn more about the influence of various methods on learning in health education.

1. What methods of teaching are most effective in each of the basic and fundamental areas of health?
2. What methods of teaching are most effective in teaching basic health facts and principles?
3. How effective is field work in teaching health?
4. What phases of health can be most effectively taught by demonstrations?
5. What are the demonstrations that should be used?

6. Can some phases of health be taught more effectively through laboratory work?
7. What is the place of group processes and problem solving in health teaching at the high school level?
8. How can the results of medical examinations, surveys and inspections be used effectively in health teaching?
9. What is the place of vital statistics in health teaching?
10. What methods of teaching are most effective in developing desirable health attitudes?
11. How effective are visual aids such as films in teaching sex education, alcoholism, marriage, and family life?

VII. Statutory Considerations Relating to Health Training

Although various states have statutory and certification requirements pertaining to health teaching at the secondary school level, there is wide difference of opinion concerning their effectiveness.

1. How effective are state statutory requirements concerning health instruction at the high school level?
2. What are the existing statutory requirements in the various states?
3. What are the various certification requirements in the various states for secondary school health teachers?
4. Is certification for teachers in health education effective?
5. What should be minimum certification requirements?
6. Should statutory and certification requirements be uniform from state to state?

VIII. Study Materials

Although there is a wealth of some kinds of study materials for high school health teaching there are many questions concerning the selection and use of materials. Much research needs to be done on the effectiveness of different types of study materials.

1. What study materials are most effective in teaching health?
2. How effective are textbooks in teaching health?
3. How effective are published workbooks in teaching health?
4. Are health texts and workbooks scientificially accurate and up to date?
5. Are health texts and workbooks satisfactory from the viewpoint of vocabulary, reading difficulty, graduation, interest, make-up, etc.
6. How effective is health teaching without a textbook?
7. How effective are the many visual aids such as motion pictures, slides, etc.?
8. How effective are teacher developed work materials in teaching health?
9. What standards should be applied in the selection of study materials?
10. Does television hold promise for high school health teaching?

IX. Relationship of Health Interest to Health Teaching

There has been strong emphasis in recent years in developing health

teaching entirely on the basis of interests of students. This approach seems psychologically justifiable, yet it is questioned by many people.

1. What is the relationship of health interests to students likes and dislikes of health teaching?
2. What are the health interests at different age and grade levels?
3. How and to what extent does the school, home and community affect the health interests of high school students?
4. Can health teaching entirely on the basis of student interests be justified?
5. Are present health interests of high school students a sufficient guide to health knowledge and information they will need in adult life?
6. What is the relationship between health interests and learning?
7. What is the relationship between a lack of interest and learning?

X. Qualifications and Preparation of Secondary School Health Teachers

Because qualifications and preparation are so closely related to sucess in teaching health in the high school, this area should be given immediate attention from the viewpoint of study and research.

1. What should be the minimum requirements for secondary school health teaching?
2. What basic sciences should be included in preparing secondary school health teachers?
3. What preparation should school administrators have in health education?
4. How can superior people be selected for high school health education careers?
5. Are minor areas of study in addition to health and science desirable in training health teachers? If so, what areas?
6. What total cumulative experiences in health education should the high school health teacher have?

XI. Misconceptions Concerning Health and Healthful Living

Research completed to date indicate there are widespread health misconceptions among the school population. Additional research seems necessary at the high school level.

1. How extensive are misconceptions among high school students?
2. What types of misconceptions are most prevalent?
3. Is there a significant difference in the misconceptions of boys and girls?
4. Is there a significant difference in the misconceptions of students at various age and grade levels?
5. How should the teacher approach the problem of correcting the misconceptions of students?
6. What health principles can be developed to help students avoid forming misconceptions?
7. Where and how do students get their misconceptions? Possible sources are: parents, relatives, teachers, printed matter, advertising, etc.

XII. Implications of Motivation for Health Teaching

Motivation is usually thought to be a strong factor in all learning including health education. There are many questions and problems yet to be answered concerning its use in health teaching.

1. How important is motivation in health teaching?
2. Are some methods of teaching motivational in nature?
3. Is the desire for the outcomes of learning sufficient in health education?
4. What areas of health teaching need strong motivation?
5. What types of motivation are most effective in health teaching?
6. Are different motivational procedures and techniques necessary for the different age and grade levels in the high school?
7. Are some health teaching procedures motivational in nature?

XIII. Interpretation of Health Information

One of the most serious problems facing health educators at all levels of education is in helping people correctly interpret health information. Advertising, of course, is one of the big problems although many other sources provide a medium for misinterpretation.

1. To what extent should health information in newspapers and popular periodicals be used in health teaching?
2. What types of health materials are most commonly found in newspapers and periodicals?
3. How accurately and correctly can high school students interpret health information and particularly newspaper and periodical articles?
4. How can high school students be taught to accurately evaluate and appraise health information?
5. How can high school students be taught to accurately evaluate and appraise health advertisements?
6. What health principles can be developed and imparted that will help students in correctly interpreting health information?

XIV. Community Cooperation and Relationships

Although both school and community health educators usually agree that community resources should be used in high school health teaching, there remains much to be done to make this effective in many schools.

1. How can community organizations and groups be effective in the high school health teaching program?
2. To what extent should the health teaching program influence knowledge, practices and attitudes in the home and community?
3. Can the community be used as a "laboratory" for health teaching?
4. What phase of health can best benefit through cooperative community efforts?
5. What health specialists can be utilized in high school health teaching? In what areas?
6. How and under what conditions are community health councils effective?

XV. Health Guidance Through Health Teaching

Greater emphasis is being placed on health guidance than ever before.

It is the feeling of many health educators that considerable health guidance particularly of a group nature can be done effectively through health classes.

1. Can health teaching be effective in health guidance?
2. To what extent is the health teacher responsible for health guidance through health teaching?
3. Can group health guidance through the health class be made to form the basis for individual health guidance?
4. To what extent is the high school guidance department responsible for health guidance?
5. What are the best working relationships between the health teacher, school nurse, school physicians and guidance department in health guidance of students?
6. What relationship should the health teacher have with the home in health guidance?

XVI. Health and Safety Relationships

Because the aim of both health and safety is concerned with the health and total welfare of the student, there is a feeling among some educators that health teachers should be responsible for safety and accident prevention education.

1. To what extent should safety be taught as a part of health education?
2. What phases of safety closely correlate with health?
3. What methods of teaching are most effective in safety teaching?
4. What desirable community relationships can be developed in teaching safety?
5. How effective are the various visual aids in teaching safety?
6. What criteria should be used in selecting safety education study materials?

XVII. Evaluation and Appraisal of Health Teaching

There is usually unanimous agreement that health teaching should be evaluated. However, there is much difference of opinion as to the best ways of evaluating and appraising health teaching.

1. What are the best methods of evaluating and appraising health teaching?
2. What is the place of standardized health tests in teaching health?
3. What are the most commonly used means of measuring student achievement in health classes? How effective are they?
4. What should be the basis for measuring pupil progress and achievement in health classes?
5. Should health practices be evaluated as a part of health teaching? If so, how?
6. Should health attitudes be evaluated as a part of health teaching? If so, how?
7. What types of tests are best to use in measuring achievement in health?
8. Should parents be utilized in evaluating health teaching? If so, how?

CAREERS THAT COUNT

CATHERINE WORTHINGHAM, Ph.D.
Director of Professional Education, The National Foundation

In the battle for health one factor is not always remembered. The great and dramatic advances in research are correctly hailed, but they are sometimes regarded as anonymous contributions. People say it was a "vaccine" that did this, or an "antibiotic" that did that. But actually it was men and women who made the difference.

We tend to forget that a laboratory, a clinic, a hospital is an inanimate thing until dedicated, trained persons bring it alive. But we should not forget that there is nothing that can so effectively stalemate research plans as the absence of a researcher; that patients must have care from trained minds and hands. It is through trained human beings that battles for health are won.

The trouble is that these people do not exist in anywhere near the numbers needed. America does not have them. To meet present and future demands, the few thousands of qualified personnel ought to be multiplied several times. But in the way of recruitment and training we are not doing anything like that now.

To The National Foundation this is an old story. It has been hard to impress the public with the urgency of this need—with the very real danger that is involved.

But we had to have experts if we were going to do something about polio, so we used $34,900,000 of March of Dimes funds to train people. Through our scholarship and fellowship programs alone we made it possible for some 9,000 to train for the health professions.

They were trained to care for patients with disabilities from all causes, not just polio. And very fortunate it is for the country that they are available. They are one of the great contributions The National Foundation has made to America. But what The National Foundation has been doing with millions of dollars, America should have been doing with hundreds of millions. Because it has not, we are desperately short of these people today.

We now hope to help at least some of the millions of sufferers of arthritis and birth defects, to provide high quality care that we provided in the past—and will continue to provide—for polio patients. We want especially to help children who suffer these afflictions, those who have most at stake, most of life ahead of them.

To help these patients requires teams of specialists and it requires them in many times the numbers now available. This means the training of more experts. It especially means training more of what we call the co-professionals of medicine—the physical therapists, occupational therapists, nurses, medical social workers. In the work of human rehabilitation these experts are needed just as urgently as physicians—numerically speaking, even more urgently.

To train the skilled manpower needed to do this job takes years. And the decision to enter upon a career in such work has to be made early. In the past, many young people have not even known about these pro-

fessions until it was too late and too expensive in their educational lives to change their objective.

The Health Scholarship Program has given The National Foundation its first opportunity to go into the high schools to tell young people about these careers and of the deep personal satisfactions that come to those who follow them. Through this program it will be financially possible for at least some of these young people to obtain the necessary education.

The Health Scholarship Program is now nearly two years old. We have had an amazingly successful experience with it.

There have been 853 winners of these scholarships. You may be interested in how this breaks down by fields. In medicine we awarded 204 scholarships; in nursing, 203; in physical therapy, 178; in occupational therapy, 149 and in medical social work, 119.

Over three-fourths of the applications received were for the fields of medicine and nursing. Medicine and nursing are obviously well-known professions. But what a physical therapist, a medical social worker or an occupational therapist is, or what he or she does, is something of a mystery to both teen-agers and parents, teachers and guidance counselors. Building an image of these professions must be one of our immediate objectives. Fortunately, in many communities we have allies.

Let me point out here that the Health Scholarship Program was conceived as a community service program, a means by which all the special groups concerned with both the future of young Americans and the future health of America could work together. We know from past experience that when the members of many organizations, such as ours and such as those you represent, tackle a problem together something gets done.

That is why with the Health Scholarship Program of the National Foundation we have asked our chapter people to take the problem of training experts to their communities, to enlist the aid of all community organizations in solving this problem. In the long run, this may be more important than are the 515 Health Scholarships that The National Foundation is able to offer annually.

We are convinced that the American people do not realize just how dangerous to this country's future this shortage in trained health personnel is. They know of the need for scientists and technicians expert in the hardware of national defense. That need is real and we have been sharply awakened to it in recent times. But America's future health needs are just as real and just as vital to the long-run security of this nation. Once the American public realizes this, I do not believe that we will long live in a nation that has millions of capable men and women unemployed while thousands of jobs go begging in the health fields.

But the Health Scholarship Program is not the only new addition to The National Foundation's professional education program, and perhaps not the most important. The underlying factor impeding progress in the fields of arthritis and birth defects today is exactly what was holding up progress in polio 21 years ago. Research projects, and the personnel to man them, were almost non-existent. There were very few microbiologists in the entire nation then.

So we started giving fellowships to train the specialists needed if we were to sustain the fight against polio. In the years since, we have given hundreds of such fellowships. Today, in our new program, we need new

specialists. This is why in recent months our postdoctoral fellowship programs have been expanded. For the first time we are offering fellowships for advanced clinical and research training in the fields related to the problems of arthritis and birth defects. Let us hope that one of the first of these fellowships is awarded another young Jonas Salk.

Now what was our next step? Again it is a lesson learned in our polio days. We found then that one of the most effective ways to recruit investigators was to give medical students the opportunity, through fellowships, to spend their free time investigating their interest and aptitude for becoming research scientists. The advisability of extending our medical student fellowships into the fields of genetics and embryology was studied by our medical advisory committee and the first awards made in 1960. It is not necessary for me to point out the reasons we specifically chose these two areas. It is in these two fields that much basic work must be done if the secrets of birth defects are to be found.

By this time you may have assumed that scholarships and fellowships are the only things that professional education is interested in. But this is certainly not the whole story. The purpose of professional education is to provide trained minds, skilled hands. But to achieve these ends, scholarships and fellowships are not enough—concepts and attitudes must be changed.

If people are not interested in a health career, scholarships go wanting. If there are no schools to study in, teachers to teach, or facilities to teach with, fellowships are useless opportunities. If the knowledge gained by a few is unavailable to many who work in the field, then their experience is of small value in preparing students who are informed of the latest and trained in the best. To change these "if's" is a subtle, undramatic, yet basic part of professional education.

Let me give you an example of the kind of broad educational problems that must be met if we are to keep pace with the fast moving world of medicine. Over the years, the prevalent pattern of patient care has placed the emphasis on acute care. Our hospitals have been geared to acute illnesses and early patient discharge.

And in the past this was a very reasonable approach. The battle then was with diseases of deficiency and infection and we had plenty of guaranteed fatal diseases. Dying was a good deal easier then than it is today.

But the battle now is with the cripplers. The job now is to give the hundreds of thousands afflicted by chronic disease and disability the health to enjoy the years so hard won. Because the care of these patients is not too unlike the care required by polio patients with continuing disability, we faced this problem and recognized the size of it sooner than many. Out of our experience with polio patients, we learned that we needed not one specialist to deal with the results of a crippling disease but many who could work together as a team.

As our recognition of the need for teams of experts grew, it also became apparent that if we were to have these teams—the members of the team—even the doctors—would have to be trained in the basic concept and the techniques of rehabilitation. At that time, few medical schools in the country were training students in the problems of rehabilitation. Curricula were overcrowded and few teaching hours could be spared for a new subject.

Realizing that rehabilitation is not just a handful of special skills—but a way of planning care for a patient trying to get back into the business of living—The National Foundation has supported a unique educational experiment. Pilot studies are now underway in 15 medical schools in which the emphasis on the teaching of rehabilitation is not as a specialized area requiring new courses and additional teaching hours—but as a part of the teaching of patient care in pediatrics, internal medicine, preventive medicine—and all the other specialty fields. These pilot studies represent the most extensive contribution to medical education that The National Foundation has made. But—if our concept is right—future doctors will be better prepared to meet the needs of the patients of tomorrow.

The co-professionals of this team—the nurses, physical therapists and others—are also redirecting their education programs toward the treatment of a patient as an *individual* with a disease or injury. The conviction is growing that the total needs of a person with a disability should be considered from the onset of his disease or injury until his re-adjustment to home and community. Unfortunately, even with the better training that is now being provided for students in the health professions we cannot yet train sufficient people to care for the health needs of our rapidly expanding population with its increasing longevity. Ways must be found to utilize better our highly qualified people. Our facilities for patient care must be re-organized in relation to the continuing needs of patients. We must think in new and different ways to adjust our hospitals to new types of disease problems and the patients they afflict. Part of the burden must be borne by home care plans. But many of the problems we now so obviously face must be answered by time and with experience.

All of the changes necessary in patterns of patient care will require changes in patterns of education. Doctors and all others who work with patients afflicted by chronic disease and disability in the days ahead must recognize the never-ending problem of this nation's limited supply of trained experts. They will need assistance from many who have less training but who have much to offer in service to these patients. Even by working together we cannot provide all the skilled health personnel that America so desperately needs. But we can make a beginning. And we can focus the attention of the nation on a fact too seldom recognized—the fact that money alone does not conquer disease. Merely pouring money into medicine and research is not enough. In the final analysis, it is trained men and women who make the difference.

* * * * *

A special seven page feature in the October, 1960 issue of *JOHPER* is an article by Sumter S. Arnim, D.D.S. and Perry J. Sandell on "How To Educate High School Students in Oral Hygiene." The unique technique described is based on research by Dr. Arnim and has been presented at several professional meetings. Reprints of the article are available from the AAHPER, 1201 16th St., N.W., Washington 6, D. C. for $.25 each, postpaid. Special quantity prices are available on request.

☆ BOOK REVIEWS ☆

SAFETY CURRICULUM GUIDE. Curriculum Bulletin No. 27, March 1960. Wisconsin Cooperative Educational Planning Program.

A March, 1960, SAFETY CURRICULUM GUIDE, published under the authorization of the Wisconsin Cooperative Educational Planning Program, Madison, Wisconsin, approaches the accident problems of school children in a very sensible manner.

Since characteristics of children's growth and of the culture in which they live are closely related to accidents, these growth and cultural characteristics introduce the safety discussions for the primary, junior and senior high school grades. Aimed at "accident-proofing" all students, the guide covers the areas of traffic, home, school, recreation and farm safety. Conditions leading to the accidents plus suggested learning experiences appropriate to each grade level are also included.

M. K. BEYRER

SCHOOL HEALTH PRACTICE. 2nd Ed. C. L. Anderson. Publ. C. V. Mosby and Co. St. Louis, Mo. 1960. 530 pp. $6.00.

Effective text for use in classes in Materials and Methods of Health Education.

M. A. H.

PERSONAL AND COMMUNITY HEALTH. 11th ed. CLAIR E. TURNER. Publ. C. V. Mosby and Co. St. Louis, Mo. 1959. 446 pp. $5.50.

A completely revised edition. A study of individual health values and how these may be attained and protected. Contains also an examination of the effectiveness of community resources in providing the elements of a healthful environment.

M. A. H.

BLIND CHILDREN IN FAMILY AND COMMUNITY. MARIETTA B. SPENCER. Publ. Univ. of Minn. Press, Minneapolis 14, Minn. 142 pp. $4.25.

A book full of excellent photographs and clear brief explanations to help parents of blind children to accept and start these children on their way to becoming useful, independent adults. Emphasis is placed throughout the book on the fact that blind children are essentially like other children with needs, problems and potentials similar to those of normally sighted children.

M. A. H.

ADVENTURE TO MOTHERHOOD. J. ALLAN OFFEN, M.D. Publication of Audio Visual Education Co. of America. 1960. Distributed by Taplinger Publication Co., Inc. 119 W. 57 St., N. Y. 19. 70 pp. $2.95.

Pictorial story in color showing events in normal pregnancy, through delivery. It emphasizes the importance of a detailed medical history and physical examination of the patient, and gives comprehensive suggestions regarding diet, rest, exercise, regular check-ups at stated periods, expected progress during pregnancy and delivery, as well as after-care. Supplemental to this booklet, and for the obstetrician's use are the following; a self-taking obstetrical history, hospital information and supplementary leaflets bearing such titles as; Postpartum Instructions; Diabetes in Pregnancy; The Rh Factor; Caesarean Section; Constipation. This gives the doctor an opportunity to individualize each case as he supplies information on the above topics to his patients. The book should prove helpful to young prospective mothers.

M. A. H.

PRINCIPLES OF NUTRITION. EVA D. WILSON, KATHERINE H. FISHER, and MARY E. FUQUA. John Wiley and Sons, Inc. 1959. 483 pp. $5.95.

An introductory text in nutrition for college students. No extensive background in chemistry or physiology is needed in order to understand the principles of nutrition. A glossary and food tables plus numerous illustrative photographs and diagrams add to the usefulness of this text for beginners in the field of nutrition study.

M. A. H.

GOOD HEALTH—PERSONAL AND COMMUNITY. BENJ. F. MILLER, M.D. and ZELMA MILLER, PH.D. Publ. W. B. Saunders Co., Phila. and London. 1960. 546 pp. $6.00.

An uptodate text for college students. Sections devoted to the usual major topics of individual and community health. Included also are sections on emotional life, nutrition, care of the body, and preparation for marriage. The book is adequately illustrated and each chapter is supplemented by a number of provocative questions and suggested topics for discussion, together with a list of supplementary reading references.

M. A. H.

HUMAN NUTRITION AND DIETETICS. SIR STANLEY DAVIDSON, A. P. MEIKLEJOHN and R. PASSMORE. Williams and Wilkins, Baltimore, Md. 1959. 844 pp. $15.00.

This is a rather exhaustive text compiling modern knowledge of human nutrition in health and disease and the practical application thereof in the solution of dietetic problems. It is useful as a reference text for medical personnel and medical students as well as for dietitians, nurses and food technologists.

Such subjects as the physiology of nutrition, chemical and nutritive properties of foods, food processing, malnutrition and disease, public health aspects of nutritional programs, and the formulation of special diets are adequately treated.

M. A. H.

EXPERT COMMITTEE ON POLIOMYELITIS, THIRD REPORT. *World Health Organization: Technical Report Series*, 1960, No. 203; 53 pages. Price: 3/6, $0.60, Sw. fr. 2.—. Also available in French and Spanish.

Since the last WHO Expert Committee on Poliomyelitis met in 1957, not only have inactivated poliovirus vaccines come into widespread use but live attenuated vaccines have been submitted to intensive study and, in some countries, have already been employed on a scale that could scarcely have been envisaged three years ago. These developments and the problems they raise are fully reviewed in the third report of the Expert Committee.

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• Granville Larimore, deputy commissioner of the New York State Health Department discusses "The Elements of Health Education in Good Public Health Programs" in the October, 1960 issue of *Public Health Reports*. Dr. Larimore makes a plea for adequate "thought, time, and facilities" for the educational phase of public health programs. He further stresses the need to include the educational function at the beginning of the program and to make provision for its continuance throughout the project. The need for qualified personnel to guide the educational aspects of programs is emphasized . . . "A responsibility calling for an education of the people which will preserve their cultures and respect for their traditions" is the theme of a paper by Dr. Abraham Horwitz, Director of the Pan American Sanitary Bureau, in the July 1960 issue of the *International Journal of Health Education*. The article is titled "Problems of Health Education in the Americas." In the same issue of the *Journal* are articles titled "Operation Zacatepec" which describes a project aimed at uncovering the factors affecting the nutrition level of the community; "Bury the Bottle, Mother, Not the Baby" describes the shock tactics that were necessary to combat infant mortality in the Bantu areas of South Africa; and some functional approaches to school health education in the Philippines are outlined in an article "The Community Is Their Best Textbook."

The *International Journal* is now in its third year of publication. Subscriptions rates are $3.00 per year and payments may be sent to The Editor, 3, Rue Viollier, Geneva, Switzerland.

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By CARL E. WILLGOOSE, Boston University. McGraw-Hill Health, Physical Education, and Recreation Series. Ready in June, 1961.

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